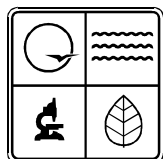




Preventing Pollution at Hot Mix Asphalt Plants

A Guide to Environmental Compliance and
Pollution Prevention for Asphalt Plants in
Missouri



MISSOURI DEPARTMENT OF NATURAL RESOURCES

Technical Assistance Program

1-800-361-4827

<http://www.dnr.state.mo.us>



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The information in this publication is intended as general guidance only. For specific requirements, the reader should consult the appropriate federal and state laws and rules.

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*For more information call 1-800-361-4827 or write to
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Technical Assistance Program
P.O. Box 176
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September 1999



Preventing Pollution at Hot Mix Asphalt Plants

- Guide Sheet #1

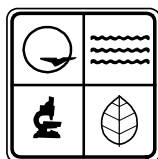
As environmental protection becomes more and more important, industries of every type are faced with some big questions.

- What environmental regulations apply to my facility and me?
- How do I comply with those regulations?
- Are there things I can do to reduce the number of regulations I must meet?
- How can I protect myself from fines and liability?
- How do I protect my workers and myself from environmental hazards at work?

This publication can help hot mix asphalt plants in Missouri answer some of those questions. The guides provide basic information about regulatory requirements and suggestions for protecting yourself, your workers and the environment through pollution prevention.

Each guide sheet deals with a separate issue that you may face at your asphalt plant. The guides will not answer every question you have. After reviewing them, you should be able to decide if you need more information or help on a particular issue. The topics are listed on the back of this page.

The Missouri Department of Natural Resources has a Technical Assistance Program (TAP) to help you comply with environmental regulations and find ways to prevent pollution. If you need help, call TAP at 1-800-361-4827.



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Guide Sheets for Hot Mix Asphalt Plants

Guide Sheet #2, Pollution Prevention
Guide Sheet #3, 404 Permits and Wetlands
Guide Sheet #4, Air Quality Issues
Guide Sheet #5, Air Quality Construction Permits
Guide Sheet #6, Air Quality New Source Performance Standards
Guide Sheet #7, Air Quality Operating Permits
Guide Sheet #8, Air Quality and Portable Equipment
Guide Sheet #9, Air Quality, Submission of Emission Data
Guide Sheet #10, Antifreeze
Guide Sheet #11, Backflow Prevention
Guide Sheet #12, Endangered Species
Guide Sheet #13, EPCRA and Tier II Reporting
Guide Sheet #14, Hazardous Waste
Guide Sheet #15, Hazardous Waste Management
Guide Sheet #16, Lead-Acid Batteries
Guide Sheet #17, Missouri Department of Transportation
Guide Sheet #18, Petroleum Storage Tanks
Guide Sheet #19, Storm Water Permits
Guide Sheet #20, Used Oil Disposal and Recycling
Guide Sheet #21, Used Oil Storage
Guide Sheet #22, Using Waste in Asphalt
Guide Sheet #23, Waste Tires

If you have comments or ideas for ways to improve these guide sheets, please let us know by calling TAP at 1-800-361-4827.

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Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #2

Pollution Prevention



Asphalt plants deal with many things that can affect the environment. Materials such as airborne dust, contaminated storm water and used oil can harm the environment and people if they are not properly managed. State and federal environmental regulations explain what legally can and cannot be done with these materials. The regulations describe how pollution or waste should be controlled, stored, treated or disposed. A better solution is to prevent the waste or pollution.

What is Pollution Prevention?

Pollution prevention is simply not making the waste or pollutant in the first place. It means doing what we can to reduce the amount and toxicity of the pollution we generate.

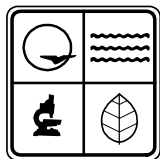
Preventing pollution may be something as simple as using a catch basin to prevent spills or something as complex as redesigning your operation to increase efficiency and reduce waste. Simple things like choosing nonhazardous solvents can protect the environment and reduce the number of environmental regulations you must comply with. Pollution prevention means thinking about the environmental impact of your actions and trying to limit that impact.

Why Prevent Pollution?

When we generate waste or pollution, we must safely and legally manage that waste or pollution. Whether it is household trash or waste from a business, managing wastes costs money. Usually the things we discard are items we bought. A good example is paper towels. We buy them, use them once and then pay again to have them disposed.

If we reduce the amount of waste we generate, we can save money. Reducing costs is a major reason to prevent pollution. Here are a few others:

- ✓ Improved work environment and worker safety.
- ✓ Reduced liability.
- ✓ Increased efficiency.
- ✓ Reduced regulatory requirements.
- ✓ Improved environmental protection.
- ✓ Enhanced marketing and public relations opportunities.



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What can be done at hot mix asphalt plants?

There are many ways to prevent pollution at asphalt plants. Each of these guide sheets has suggestions on ways to prevent pollution. Here are a few general tips:

- ✓ Make a list of your wastes. Try to find a way to eliminate each of them. For example, if you throw away paper towels, consider using washable shop towels.
- ✓ Include the cost of disposal when you make purchasing decisions. What looks like the least expensive option may cost more because of disposal or other management costs.
- ✓ Don't buy more than you need. The leftovers may become waste.
- ✓ Purchase the largest practical container, containers usually end up as waste, but don't purchase more than you need.
- ✓ Purchase the least toxic or hazardous product available. Check the material safety data sheets for products you purchase. If the product is toxic or hazardous, ask your supplier for alternatives.
- ✓ Use the oldest items first (first-in, first-out).
- ✓ If you do have excess or unneeded materials, see if your supplier can take them back.
- ✓ Use drip pans and splash guards where spills frequently occur.
- ✓ Fix leaks immediately.
- ✓ Keep work areas clean and well organized to help prevent accidents.
- ✓ Store materials in a way that keeps them from being damaged.
- ✓ Inspect storage areas regularly for leaks.
- ✓ Make sure all items are clearly labeled. Store products in original containers.
- ✓ Store wastes separately and be sure they are properly labeled to make it easier to reuse or recycle them.
- ✓ Store items that could leak in a place where leaks will be contained and easily seen.

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Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #3

404 Permits and Wetlands



Under Section 404(a) of the Clean Water Act, you must get a permit from the U.S. Army Corps of Engineers (Corps) before putting dredged or fill materials into any "waters of the United States" (U.S.). This includes waters used (or usable) as habitat by certain birds or endangered species or used to irrigate crops sold in interstate commerce.

The following are not generally considered "waters of the U.S.":

- ✓ Non-tidal drainage and irrigation ditches
- ✓ Artificially irrigated areas
- ✓ Artificial lakes or ponds
- ✓ Artificial reflecting or swimming pools
- ✓ Water-filled depressions **except** that water-filled depressions such as those formed from quarrying can be "waters of the U.S." if the construction or excavation operation is abandoned or completed and the body of water meets the definition of "waters of the U.S." or the site has become a wetland.

The Corps and the Environmental Protection Agency (EPA) can designate a particular

waterbody as a "water of the U.S." on a case by case basis.

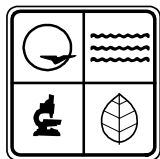
The Corps and EPA define wetlands as "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

The Corps determines whether an area is a wetland and if an activity requires a permit. The determination is based on vegetation, soil and hydrology. Before issuing a 404 permit, the Corps will work with the Department of Natural Resources to get a water quality certification called a 401. This certification is required under Section 401 of the Clean Water Act and state law.

There are five U.S. Army Corps of Engineers Districts in Missouri. Use the map on the back of this sheet to find out which office to contact for more assistance.

Remember

If you plan to excavate or fill in waters of the U.S., including wetlands, you must contact the U.S. Army Corps of Engineers and get any necessary permits before you begin.



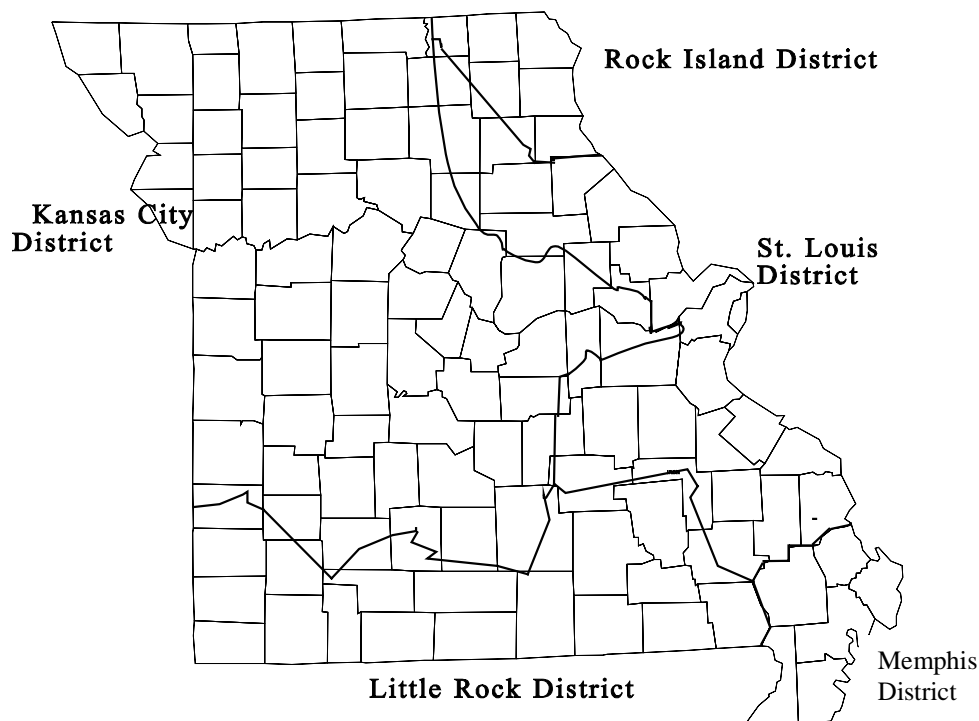
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U.S. Army Corps of Engineers District Boundaries (approximate)



Kansas City District

700 Federal Bldg., 601 E. 12th St.
Kansas City, MO 64106-2896
(816) 983-3990

Glasgow Regulatory Field Office
(660) 338-2323
Jefferson City Regulatory Field Office
(573) 634-4788
Truman Regulatory Field Office
(660) 438-6697

St. Louis District

1222 Spruce St.
St. Louis, MO 63103-2833
(314) 331-8575

Little Rock District

P.O. Box 867
Little Rock, AR 72203
(501) 324-5296

Memphis District

Clifford Davis Federal Building
Room B-202
Memphis, TN 38103-1894
(901) 544-3471

Rock Island District

Box 2004, Clock Tower Bldg.
Rock Island, IL 61204-2004
(309) 794-5370

*For more information call 1-800-361-4827 or write to
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Jefferson City, MO 65102-0176*

Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #4

Air Quality Issues

The most common air pollutants from hot mix asphalt plants are particulate matter with a diameter of no more than 10 microns (PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOCs) and carbon monoxides (CO).

To protect public health and the environment, asphalt plants are required to take steps to protect air quality. There are several ways this is done. The major air quality issues affecting asphalt plants are

- ✓ National Ambient Air Quality Standards (NAAQS)
- ✓ New Source Performance Standards (NSPS)
- ✓ Emissions Inventory Questionnaires (EIQs)
- ✓ Construction Permits
- ✓ Operating Permits
- ✓ Portable Equipment Permitting

It is important that you understand and follow the requirements that apply to your facility. Getting the required permits can take time. Remember to plan ahead when bidding out a job that will require a permit.

National Ambient Air Quality Standards (NAAQS)

These standards were set by the U.S. Environmental Protection Agency to limit the concentration of pollutants in the air. The standards apply to PM_{10} , SO_2 , NO_x and CO, as well as to some other pollutants. The impact of emissions from each facility on ambient air quality is estimated during the construction



permit review. Facilities that have the potential to exceed the NAAQS will have additional requirements.

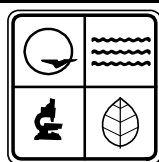
New Source Performance Standards (NSPS)

A federal regulation called a New Source Performance Standard applies to all hot mix asphalt plants that began construction or modification after a manufacture date of June 11, 1973. This standard limits the particulate emissions from your plant.

To show that the asphalt plant will meet these emissions limits, you will need a performance test at your plant. Generally, the test should be done within six months after the plant gets an air construction permit. A qualified federal or state observer must witness the performance test. This means you will need to coordinate the testing date and time with the qualified observer well in advance. Emissions from hot mix asphalt plants are limited to a rate not to exceed 90 mg/dscm, (milligrams/dry standard cubic meter). Opacity from the plant is not to exceed 20 percent. (See guide sheet #6 for more information.)

Emissions Inventory Questionnaire

By April 1 each year, you must submit an Emission Inventory Questionnaire and emission fees for your asphalt plant to the Department of Natural Resources or your local air pollution control agency. The EIQ includes process information, emission data and fee calculations. (See guide sheet #9 for more information.)



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Construction Permits

If you want to set up, relocate or change your hot mix asphalt plant, you need an air construction permit from the Missouri Department of Natural Resources or the local air pollution control agency office (see guide sheet #5 for more information).

Operating Permits

All hot mix asphalt plants must have an Air Quality Operating Permit from DNR or the local air pollution control agency office (see guide sheet #7 for more information).

Relocation Requests for Portable Equipment

You need approval before moving a permitted portable equipment to a new site. If the new site has been previously approved, you must notify DNR seven days prior to relocating the equipment (see guide sheet #8 for more information).

Remember

Before you begin construction learn what air quality requirements you must meet.
Performance testing is required for hot mix asphalt plants constructed after June 11, 1973.
You must complete and submit an EIQ and emission fee every year.
You must have a construction permit if you wish to build or change your asphalt plant.
All hot mix asphalt plants need an operating permit.
If you use portable equipment, you need a construction permit. You will also need to notify DNR before you move the permitted equipment.
Getting permits takes time. Consider the permitting timeframes when you bid on or contract for jobs.

Air Pollution Control Agencies

City of St. Louis:

Division of Air Pollution Control
(314) 664-7877

St. Louis County:

St. Louis County Department of Health
(314) 854-6923

City of Springfield:

Air Pollution Control Authority
(417) 864-1662

Kansas City:

Kansas City Health Department
Air Quality Section
(816) 983-4301

Elsewhere in Missouri:

Department of Natural Resources
Air Pollution Control Program
(573) 751-4817

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Technical Assistance Program
P.O. Box 176
Jefferson City, MO 65102-0176*

Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #5

Air Quality Construction Permits



If you want to set up or change an asphaltic concrete (hot mix asphalt) plant, you need an air construction permit from the Missouri Department of Natural Resources (DNR) or local air pollution control agency office. You must have this permit **before** you begin construction, set up or modification of your asphalt plant.

The most common air pollutants from hot mix asphalt plants are particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs) and carbon monoxide (CO). PM₁₀ is particulate matter with a diameter of no more than 10 microns. National Ambient Air Quality Standards (NAAQS) have been set to limit the concentrations of PM₁₀, SO₂, NO_x, and CO in the air to protect public health.

Asphalt plants set up, constructed or modified after May 13, 1982, must have an air construction permit. To get this permit, you need to complete air construction permit application forms and submit the forms to DNR or your local air pollution control agency, listed on the back of this guide sheet.

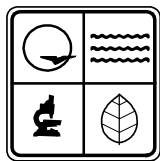
Application forms include an Application for Authority to Construct, and a Construction Permit Emissions Inventory Questionnaire. Information requested on the forms include the location of the

plant and a drawing or map of the site layout with the length and position of haul roads, storage piles and plant equipment. You will need to list the process equipment that will be used, the date it was manufactured, the serial number and the rated design performance of each piece of process equipment. You will also be asked the expected annual asphalt production and fuel use. The application fee is \$100, and you will be charged a \$50 per hour processing fee.

When DNR or the local air pollution control agency receives a permit application, the staff reviews it for completeness. This is called the administrative review.

Administrative review will take no more than 30 days. However, if the application is incomplete, the total time from your original submittal to final approval may be longer.

If the application is found to be incomplete, you will receive a request for more information. When that information is received, the administrative review may take up to an additional 30 days. Once the agency determines that the application is complete, the staff will conduct a technical review.



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There are different types of permits and levels of permit review depending on the type of operation being permitted. The length of time needed for technical review of your permit application will depend on the type of permit.

Construction permit applications for a typical asphalt plant can take up to 90 days. Again, the 90-day clock stops each time the permit is returned to you for corrections or revisions.

Air Pollution Control Agencies

City of St. Louis:

Division of Air Pollution Control
(314) 664-7877

St. Louis County:

St. Louis County Department of Health
(314) 854-6923

City of Springfield:

Air Pollution Control Authority
(417) 864-1662

Kansas City:

Kansas City Health Department
Air Quality Section
(816) 983-4301

Elsewhere in Missouri:

Department of Natural Resources
Air Pollution Control Program
(573) 751-4817

Remember

Before you set up, construct or modify your hot mix asphalt plant, you need an air construction permit. It can take several months to get this permit.

*For more information call 1-800-361-4827 or write to
Missouri Department of Natural Resources
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Air Quality New Source Performance Standard



A federal regulation called a New Source Performance Standard (NSPS) applies to all hot mix asphalt plants that commenced construction or modification after June 11, 1973. This standard limits the particulate emissions to a rate not to exceed 90 milligrams per dry standard cubic meter (mg/dscm), and that the opacity from the plant not to exceed 20 percent.

The operation of an asphalt plant causes the emission of many different pollutants. The most common pollutants emitted from hot mix asphalt plants are particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs), and carbon monoxides (CO). PM₁₀, is particulate matter that has a diameter of no more than 10 microns. National Ambient Air Quality Standards (NAAQS) have been established to limit the concentrations of PM₁₀, SO₂, NO_x and CO in the ambient air to levels that will protect the public health and welfare.

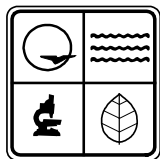
In order to demonstrate that the asphalt plant will comply with these emissions limitations, a performance test must be done, generally within six months of the plant obtaining its air construction permit (see Air Quality Construction

Permit guide sheet #5). The performance test must be witnessed by a qualified federal or state observer. This means in order to have a valid stack test performed, you will have to coordinate the stack testing date and time with the qualified observer and probably a consultant well in advance of the actual date of the stack testing.

Commenced means, in this regulation, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification. Construction means fabrication, erection or installation of an affected facility.

Remember

Stack testing is required for hot mix asphalt plants that are constructed after June 11, 1973.



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Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #7

Air Quality Operating Permits



All asphaltic concrete (hot mix asphalt) plants must complete an air operating permit application and submit it to the Missouri Department of Natural Resources (DNR) or appropriate local air pollution control agency.

The most common pollutants from hot mix asphalt plants are particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs) and carbon monoxide (CO). PM₁₀ is particulate matter with a diameter of 10 microns or less.

The air operating permit regulation has three application levels or classifications:

- ✓ Basic Sources
- ✓ Intermediate Sources
- ✓ Part 70 Sources

The classification system is based on potential emissions, or the amount of emissions that would be generated if a facility operated at 100 percent of its rated capacity 24 hours a day for 365 days a year. This is often called the Potential to Emit (PTE).

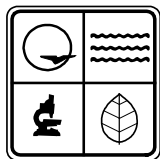
The U.S. Environmental Protection Agency set emission levels, called major thresholds, above which a facility must follow certain rules. For asphalt plants, the major threshold for PM₁₀, SO₂, NO_x, VOCs and CO is PTE of 100 tons per year or more.

Basic sources are asphalt plants with potential air emissions below the major threshold levels.

Intermediate sources have potential air emissions above major threshold levels, but actual air emissions below these levels. If your plant has a PTE of 100 tons per year or more of the listed air pollutants, but won't actually emit that much, you may choose to apply as an intermediate source. You do this by proposing in your application to restrict production and by accepting restrictions in your permit that limit potential emissions.

Part 70 sources have potential emissions that are above major threshold levels. Part 70 sources are sometimes called Major Sources. If your plant could potentially emit 100 tons or more per year of any of the pollutants listed, it is a Part 70 source. Remember, though, that if you will actually emit less than that, you can apply as an intermediate source.

If your PTE is less than 100 tons per year of the listed pollutants, you can choose to apply for a basic, intermediate or Part 70 permit. Some small plants may choose to apply for intermediate or Part 70 permits to allow for expansion in the future.



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If your PTE is over 100 tons per year, you can choose to apply for either an intermediate permit, or a Part 70 permit. However, if you are covered by the New Source Performance Standards (NSPS) (if your plant was set up, constructed or changed after June 11, 1973) and you receive an intermediate permit, you will need to upgrade to a Part 70 permit by November 15, 1999. This upgrade requirement may change, so contact DNR or your local air pollution control agency before applying.

If you are applying for a basic or intermediate permit for a new plant, the application is due no later than 30 days after the plant begins operating. Applications for new Part 70 permits are due within 12 months after the plant begins operating.

If you have an asphalt plant and you have not submitted an application for an operating

permit, you need to do so as soon as possible. DNR's Technical Assistance Program can help you decide what rules apply to you for air permitting. For help, contact TAP at (800) 361-4827 or contact another environmental professional.

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Remember

All asphalt plants need an operating permit.

If your PTE is less than 100 tons per year of the listed pollutants, you can choose to apply as a basic, intermediate or Part 70 source. If your PTE is 100 tons per year or more, you can choose to apply as an intermediate or Part 70 source.

If your plant is subject to New Source Performance Standards (if it was set up, constructed or changed after June 11, 1973) and you apply as an intermediate source now, you will need to upgrade your permit to Part 70 by Nov. 15, 1999. This requirement may change, so be sure to contact DNR or your local air agency before applying.

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Jefferson City, MO 65102-0176*

Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #8

Air Quality and Portable Equipment



The Missouri Department of Natural Resources (DNR) and the local air pollution control agencies allow permitted facilities to use a Portable Source Relocation Request before moving their equipment. Be sure that you understand when a construction permit is required and when the Portable Source Relocation Request is needed.

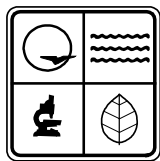
You must apply for and receive an air construction permit before constructing or modifying a portable asphalt plant. Guide sheet #5, *Air Quality Construction Permits*, has information on this subject. Portable plants also need operating permits, just as any other hot mix asphalt plant does (see guide sheet #7).

The construction permit allows for construction of specified equipment at a specific site. You must not add equipment or move the equipment to a different site until you have the proper permits to do so. If you want to add equipment, you will need to apply for and receive a construction permit unless the equipment was included in your previously submitted permit application.

If you want to move equipment that is already covered in your permit, you need approval from DNR or your local air pollution control agency listed on the back of this page. If you want to use equipment at more than one site and both sites are permitted for that equipment, you need to submit a Portable Source Relocation Request at least seven days before you plan to move the equipment. Send the form to DNR or to your local air pollution control agency.

If you wish to move equipment from a permitted site to an unpermitted site, you must submit a Portable Source Relocation Request and a haul road and storage pile worksheet. The request needs to include maps of the new area. Send these forms to DNR or the local air pollution control agency at least 21 days before you plan to move the equipment. Applicant is required to submit a \$200 process fee with the request.

The Department will review and, if appropriate, approve the relocation request no later than 21 days after receipt of the completed request. There may be times when the agency needs more information and review time will stop. If that happens, you need to provide the requested information. The agency will then restart the review time.



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Kansas City Health Department
Air Quality Section
(816) 983-4301

Elsewhere in Missouri:

Department of Natural Resources
Air Pollution Control Program
(573) 751-4817

Remember

Before you set up a portable asphalt plant or add equipment, you need a construction permit. Submit a Portable Source Relocation Form at least seven days before moving equipment to a permitted site. If you want to move equipment to a site that is not included on your permit, submit a construction permit application form and a Portable Source Relocation Form at least 21 days before you want to move the equipment.

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Technical Assistance Program
P.O. Box 176
Jefferson City, MO 65102-0176*

Preventing Pollution in Hot Mix Asphalt Plants – Guide Sheet #9

Air Quality, Submission of Emission Data



The operation of a hot mix asphalt plant causes the emission of many different pollutants. The most common pollutants emitted from hot mix asphalt plants are particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs) and carbon monoxides (CO). PM₁₀, is particulate matter that has a diameter of no more than 10 microns.

The Missouri Department of Natural Resources (DNR) requires emission data, emission fees and process information to be submitted to the department or a local air pollution control agency on an annual basis. This data must be submitted on the Emission Inventory Questionnaire (EIQ) forms. Who you need to submit a completed EIQ to depends on the location of the plant. If the plant will be located within St. Louis County, or within city limits of Kansas City, Springfield or the City of St. Louis, contact the local air pollution control agency listed on this guide sheet. Otherwise, submit completed EIQ forms to DNR. The completed EIQ forms for the year are due by April 1 of the following year.

Air Pollution Control Agencies

City of St. Louis:

Division of Air Pollution Control
(314) 664-7877

St. Louis County:

St. Louis County Department of Health
(314) 854-6923

City of Springfield:

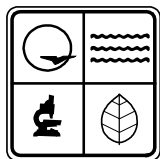
Air Pollution Control Authority
(417) 864-1662

Kansas City:

Kansas City Health Department
Air Quality Section
(816) 983-4301

Elsewhere in Missouri:

Department of Natural Resources
Air Pollution Control Program
(573) 751-4817



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Remember

EQ's and fees are submitted by April 1 each year for asphalt plants.

Pollution Prevention and Control Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Use water sprays or chemical dust suppressants to keep materials and roads wet, but use only enough water to dampen the material. Avoid having runoff.
- ✓ Maintain air pollution control equipment in full working order.

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Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #10

Antifreeze



Antifreeze is usually made of ethylene glycol, corrosion inhibitors and foam controllers. Ethylene glycol is toxic if ingested. It is particularly dangerous because animals and children are attracted to its sweet flavor. If they drink the ethylene glycol, it may cause coma or death. Some antifreeze is made of propylene glycol. This material is less hazardous to humans and animals than ethylene glycol.

The used antifreeze from a vehicle can hold contaminants that it picks up from the vehicle engine. For example, used antifreeze may contain lead because the antifreeze has dissolved some of the lead solder in the radiator.

Waste antifreeze is not currently a listed hazardous waste under the federal hazardous waste regulations. However, it may be a hazardous waste because of contaminants it has picked up. The test to determine if used antifreeze is a hazardous waste is called the Toxicity Characteristic Leaching Procedure (TCLP). See guide sheet #14, *Hazardous Wastes*, for more information.

Recent studies have shown that used antifreeze from automobiles manufactured after 1995 is not hazardous waste. This is primarily because less lead is used in radiator construction. Used antifreeze is more likely to be hazardous if it was used in heavy equipment such as bulldozers and buses.

This means that antifreeze from late-model cars and trucks that has not been mixed with other

antifreeze or with other hazardous wastes does not need to be tested. In this case, you may assume that it is not hazardous and need not test it. However, used antifreeze from heavy equipment or industrial sources will need to be tested to see if it is hazardous waste unless you have some other way of knowing that it is or is not hazardous.

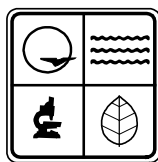
If you wish, you can assume the antifreeze from your heavy equipment is hazardous without testing it. You would then need to dispose of it as hazardous waste.

There are several ways to safely and legally manage your used antifreeze:

- ✓ Recycle the antifreeze at your facility (on site recycling).
- ✓ Send the antifreeze to someone else to either recycle or dispose of it (off site recycling or disposal).
- ✓ Discharge to public wastewater treatment plant if the plant has approved the discharge.

Recycling The Missouri Department of Natural Resources (DNR) strongly encourages antifreeze recycling. You can purchase or lease several types of antifreeze recycling equipment.

If you want to recycle your hazardous waste antifreeze on site, you must notify DNR of your recycling activities. If you recycle 2,200 pounds or more in a month, you need a resource recovery certification. For more information, contact DNR at 1-800-361-4827.



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If you recycle antifreeze only from late-model cars and trucks, you do not need a resource recovery certification.

Your recycling unit will create waste such as distillation residues or used filters. You must determine if these wastes are hazardous before disposal. See guide sheet #14, *Hazardous Waste*, for more information. If the residue is nonhazardous and is not a liquid, it can be sent to the landfill with your regular trash. Liquid wastes cannot go to the landfill.

There may be businesses that will bring equipment to your facility and recycle your antifreeze on site. Again, if the antifreeze is from late model cars and trucks, these companies do not need resource recovery certification. If it is from heavy equipment or older vehicles, these companies will need resource recovery certification to recycle your antifreeze.

Off site Recycling or Disposal. There are companies that pick up used antifreeze for off site recycling or disposal. If your used antifreeze

is a hazardous waste, the transporter must have a Missouri license to transport hazardous waste, and the waste must have a hazardous waste manifest with it. Make sure the facility you send it to has a resource recovery certification or a hazardous waste treatment, storage and disposal permit.

Discharge to wastewater treatment plant (pouring it down the drain). If the drains at your facility go to a wastewater treatment plant, not a septic system, you may be able to pour antifreeze down the drain if you have permission from the plant. Pouring wastes down the drain is called a discharge.

Some wastewater plants will not allow discharges of used antifreeze. Large quantities can harm the treatment plant. The wastewater treatment plant may not be able to remove all the contaminants from the used antifreeze. The contaminants then enter lakes, streams and rivers.

Remember

- Antifreeze from heavy equipment may be hazardous waste.
- Do Not discharge antifreeze to a wastewater plant without permission.
- Do Not discharge any hazardous waste, including antifreeze, to a septic system.
- Do Not dispose of antifreeze on the ground, down storm drains or into streams or lakes.

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Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #11

Backflow Prevention



Whether your business uses water from the public water supply or you have a private water supply such as your own well, it is important that you avoid contaminating that water source. In some situations, water, and any contaminants it has come into contact with, can flow backwards in a water line. This can contaminate the water in your building and even the entire water supply. Backflow prevention devices prevent this problem.

If you have places where the water line comes into direct contact with a potential contaminant, the contaminant can travel back into the water line when there is a change in pressure. This is called a cross-connection. For example, if process water from your equipment cleaning area flows back into your water system, your entire water system could become contaminated with dirt, soap and chemicals from your dirty equipment. Backflow prevention devices or assemblies are installed in water lines to keep this from happening. They are placed in water lines entering the building and at points in the water system where it connects to a potential source of contamination.

If your business is connected to a public water

supply, state regulations require that you protect the public water supply from cross-connections within your premises. If your operation could cause contamination to the water supply, you must have backflow prevention devices in place.

Drinking water regulations require that the backflow prevention assembly be placed on the water service line. It is a good idea to put additional backflow prevention devices at any location in your business where contamination could occur.

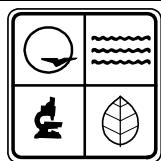
Your local water supplier may have additional requirements regarding backflow prevention. Contact that office to find out.

Even if your business is not connected to a public water supply, you should install backflow prevention devices to protect your employees, your customers and yourself from the risk of contaminated drinking water and to prevent pollution.

The Missouri Department of Natural Resources maintains a list of approved backflow prevention assemblies. To get a copy, call the Technical Assistance Program at 1-800-361-4827.

Remember

Preventing backflow into the water system protects you and anyone using your water supply. If you are connected to a public water supply system, you may be required to have backflow prevention assemblies or devices.



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September 1999

Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #12

Endangered Species



Endangered species are plants or animals for which the prospect for survival of the species is in immediate jeopardy. There are laws to protect these species and, in some cases, their habitat. This means that some activities may not be allowed in areas where endangered species live. This may affect you if you are planning to expand operations or site a new facility.

The Missouri Department of Conservation (DOC) is the agency responsible for collecting and managing information on the location and status of endangered species in the state. There are currently 306 species of plants and animals that are listed as State Endangered. The federal list of endangered and threatened species includes 20 species found in Missouri.

The restrictions affecting you depend on whether the species is a plant or animal, whether the land is private property and whether you receive any federal funds. To contact DOC's Policy Coordination Section for general information, call (573) 751-4115.

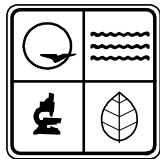
The booklet, *Endangered Species in Missouri*, gives a general discussion of the topic of rare and endangered species. The annually updated *Rare and Endangered Species Checklist of Missouri* is a reference work listing all of the current plants and animals of concern and giving both the federal and Missouri status.

There may be times when you need to determine if there are endangered species on a property, such as when you are developing permit applications for a new or expanded site. To get an environmental review of a piece of property, send a request to DOC by mail. If there are no endangered species associated with the property, DOC will issue a letter stating so. Even if you are not required to have an environmental review for endangered species, you may wish to do so, particularly if you are planning to purchase property.

When contacting DOC, it is important to clearly identify the location of the property. The information should include as many of the following as possible: county, topographic quadrangle map designation (if known), legal description (section, township, range) and acreage, permanent landmarks such as rivers and roads, and a copy of a map of suitable scale with the location of the property drawn in and labeled. The request should be sent to

Policy Coordination Section
Attn: Policy Coordinator
Missouri Department of Conservation
P.O. Box 180
Jefferson City, MO 65102-0180

Note: The state regulation dealing with endangered species is located in the *Missouri Code of State Regulations*, Title 3, Division 10, Section 4.111 (3 CSR 10-4.111).



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Remember

It is illegal to harm federally listed endangered species or their habitat.
It is illegal to harm species that are listed in Section 4.111 of Missouri's Wildlife Code.
Contact the Missouri Department of Conservation for information on endangered species in Missouri.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can help to protect habitats. Here are some suggestions:

- ✓ Learn more about rare and endangered species in your area of the state. Find out how you can improve habitat for them.
- ✓ Properly design, construct and maintain detention basins to capture sediment. Sediment is a major pollutant of aquatic environments.
- ✓ Avoid spilling oil, grease and gasoline during vehicle and equipment maintenance activities.
- ✓ Maintain appropriate spill containment equipment and train employees on proper use.

*For more information call 1-800-361-4827 or write to
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EPCRA and Tier II Reporting



Many asphalt plants use and store hazardous materials. These materials can pose a serious risk to human health and the environment, particularly if you have a fire, flood or other emergency. Emergency responders are at particular risk if they respond to an emergency where these materials are stored.

In 1986, the federal government passed the Emergency Planning and Community Right-to-Know Act (EPCRA), sometimes called SARA Title III. Missouri also has its own Community Right-to-Know Law. These laws require states, communities and businesses to work together on emergency plans for accidental chemical releases, emergency notification procedures, toxic emissions reporting and compiling an inventory of hazardous chemicals for planning and public review.

Missouri's law has reporting requirements for hazardous materials. It also requires markings on buildings, rooms and containers where hazardous chemicals are present. Markings are to conform with National Fire Protection Association (NFPA) 704 standard.

In Missouri, EPCRA, is administered by both the Missouri Department of Natural Resources (DNR) and the Missouri Department of Public Safety (DPS).

To comply with EPCRA you need to find out if you have a regulated material in a regulated quantity. You can contact either DNR or DPS to

get a list of materials regulated under EPCRA. Depending on the type and quantity of material, you may need to

- ✓ Complete a Tier II Form.
- ✓ Designate a facility coordinator to work with the Local Emergency Planning Committee (LEPC).
- ✓ Notify DNR and the National Response Center if you have a release (spill).
- ✓ File a Form R.

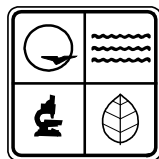
Tier II Forms

To get a list of substances that require a Tier II form and the threshold planning quantities, or to get a Tier II form and instructions, contact DPS at 1-800-780-1014.

You need to complete a Tier II if you have

- ✓ an extremely hazardous substance over the threshold planning quantity or over 500 pounds, whichever is lower, or
- ✓ more than 10,000 pounds of any hazardous chemicals for which a material safety data sheet (MSDS) is required under Occupational Safety and Health Administration (OSHA's) Hazard Communication Standard.

If you need to submit a Tier II, you also must pay a fee. For asphalt plants, the fee will typically be \$100, plus \$20 for each reported chemical over three. Most of this money is used to support local efforts to prevent and prepare for chemical hazards and for hazardous materials training.



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The Tier II form with the fee is submitted yearly on March 1 to the Missouri Emergency Response Commission (MERC). You also must send copies of the Tier II form to your Local Emergency Planning Committee (LEPC) and the appropriate local fire department.

Facility Coordinator

If you have an extremely hazardous substance in amounts over the threshold planning quantity, you must choose a person at your facility to work with the LEPC. This person will be the first emergency contact listed in the Tier II form.

Spill Notification

If you have a spill (release) of an extremely hazardous substance or hazardous substance in excess of the reportable quantity, you must call

DNR at (573) 634-2436 and call 911 (or appropriate emergency response number), and call the National Response Center at 1-800-424-8802. You also must follow up with a written report to the MERC and LEPC discussing the response measures taken and health information.

Form R

To get a list of toxic chemicals or a Form R, contact DNR at 1-800-361-4827. You need to complete a Form R if your facility

- ✓ has an SIC (Standard Industrial Classification) Code that begins with the numbers 20-39;
- ✓ has more than 10 employees, and
- ✓ manufactures, processes or otherwise uses certain toxic chemicals in excess of threshold quantities (25,000 or 10,000 pounds).

Remember

If you have 10,000 pounds of a chemical needing an MSDS under OSHA Hazard Communication Standard or if you have over 500 pounds (or the threshold planning quantity) of an extremely hazardous substance, you must submit a completed Tier II form to the fire department, the LEPC and the MERC.

Even if you aren't required to, you should have an emergency plan at your facility and discuss it with your local emergency responders.

*For more information call 1-800-361-4827 or write to
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Hazardous Waste



Note: The federal requirements for hazardous waste can be found in the *Code of Federal Regulations*, Title 40, Part 260 through Part 280 (40 CFR 260-280). The Missouri Hazardous Waste Law is in the *Revised Statutes of Missouri* (RSMo), Sections 260.350-260.552. The hazardous waste rules are in the *Code of State Regulations*, Title 10, Division 25 (10 CSR 25). To get information on the regulations, call the Missouri Department of Natural Resources (DNR) at 1-800-361-4827 or the federal government's Superfund/RCRA Hotline at 1-800-424-9346.

Some activities at your asphalt plant may result in the generation of hazardous waste. It is very important that you find out if your wastes are hazardous and that you follow the law when managing the wastes.

What is a Hazardous Waste?

A waste is a material that you no longer use and will discard. It can be a solid, liquid or gas. A waste is hazardous if it has properties that could be dangerous to human health and the environment. Solvents and paints are examples of wastes that could be hazardous.

It is your responsibility to find out if your waste is hazardous. A waste is hazardous if

- ✓ it is listed as a hazardous waste in the federal regulations;
- ✓ it exhibits a hazardous characteristic;
- ✓ it is a hazardous waste by Missouri law; or
- ✓ it is a mixture of a listed hazardous waste and any other waste.

Listed Hazardous Waste The federal government publishes lists of hazardous wastes. There are four different lists: the F list, the K list, the P list and the U list. Wastes that are on the P list are called "acutely hazardous" and are regulated more strictly than the other types.

Characteristic Hazardous Waste Some wastes that are not on the lists may still be regulated hazardous wastes because they have characteristics that make them hazardous. There are four characteristics:

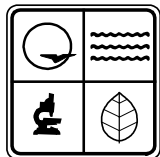
Ignitable A waste with a flashpoint of less than 140 F, or solids that catch fire easily and burn so rapidly they create a hazard. Some solvents are ignitable.

Corrosive A waste with a pH less than or equal to 2.0 or greater than or equal to 12.5. An example is battery acid.

Reactive Wastes that are normally unstable, react violently with water, can explode or release poisonous gases.

Toxic Wastes with high concentrations of certain organic chemicals, heavy metals or pesticides when tested by the Toxicity Characteristic Leaching Procedure (TCLP). The chemicals considered toxic are included on a list in the federal regulations.

Missouri-specific Hazardous Waste An individual state can regulate wastes as hazardous even if they are not on the federal list. For example, in Missouri certain dioxin wastes are regulated at smaller quantities than in the federal rules.



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Mixed Waste If you mix any waste with a waste that is on the F, P, K or U list, all of it is hazardous, even if there is only a very small amount of listed hazardous waste in the mixture.

Is Your Waste Hazardous? To find out if your waste is hazardous, check to see if it is on the lists of hazardous wastes or if it is a hazardous waste in Missouri. If it is not, you need to find out if it exhibits one or more of the hazardous characteristics. Check the material safety data sheet (MSDS) or contact your supplier for information.

If you are unsure if your waste is hazardous, you will need to have it tested in a laboratory. Contact DNR at 1-800-361-4827 for help with this.

Managing Hazardous Wastes. There are very specific requirements for managing hazardous waste from your business. The requirements you must meet depend on what and how much waste you generate. You need to know how much acutely hazardous waste (P-listed) and non-acute hazardous waste you generate each month. You also need to know how much of each of these types of waste you accumulate at any one time.

Use the following information to determine your generator status. See guide sheet #15, *Hazardous Waste Management*, for more information on how to label, store and dispose of

your hazardous waste.

What Type of Generator Are You?

There are three types of generators: Large Quantity Generator (LQG), Small Quantity Generator (SQG) and Conditionally Exempt Generator (CEG). Here are some general guidelines to help you decide what type of generator you are:

If you generate in one month or accumulate at any one time

- ✓ more than 1 kg (2.2 pounds) of acutely hazardous waste you are an LQG.
- ✓ 1,000 kg (2,200 pounds) or more of non-acute hazardous waste you are an LQG.
- ✓ more than 100 kg (about 220 pounds), but less than 1,000 kg (2,200 pounds) of non-acute hazardous waste and less than 1 kg of acutely hazardous waste you are an SQG.
- ✓ no more than 100 kg (220 pounds) of non-acute hazardous waste and less than 1 kg of acutely hazardous waste you are a CEG.
- ✓ In Missouri, anyone generating one gram or more of dioxin waste (2,3,7,8-tetrachlorodibenzo-p-dioxin) is an LQG.

If you are a SQG or LQG you must register with DNR and get a generator identification number. You also must follow regulations on storage, transport, recordkeeping and reporting. Call DNR for more information.

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Hazardous Waste Management



If you generate hazardous waste, and many asphalt plants do, there are requirements for how you manage that waste. The rules you must follow depend on how much waste you generate.

This guide describes the main requirements. For information on how to decide if your waste is hazardous, see guide sheet #14, *Hazardous Waste*.

Containers

- ✓ Hazardous waste containers must be in good condition. If a container leaks, transfer waste to a new container.
- ✓ Don't let rainwater accumulate on top of the container.
- ✓ Keep containers closed and use self-closing funnels when adding waste.
- ✓ Use containers that are compatible with the waste. For example, use HDPE (high-density polyethylene) plastic containers for corrosive wastes.
- ✓ Never place incompatible wastes, such as wastes that react with each other (acids and bases) in the same container.

Storage

- ✓ Keep aisle space between container rows to allow inspection for leaks and damage.
- ✓ Store ignitable and reactive wastes at least 50 feet from property boundaries.
- ✓ Store containers of incompatible wastes in separate areas.
- ✓ There may be limits on how long you store your waste.

Labels

- ✓ Label every container with the type of waste and whether it is hazardous or non-hazardous.
- ✓ Include the Environmental Protection Agency hazardous waste numbers or Missouri waste code numbers.
- ✓ Include the date waste was first placed in the container.
- ✓ Include your business's name and address.
- ✓ Use the following words on labels for hazardous wastes:

HAZARDOUS WASTE FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

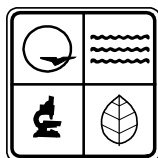
**If found, please contact the nearest police or public safety authority or the U.S. EPA
(Your business's name and address and manifest document number)**

Transport and Disposal

- ✓ Make sure your hazardous waste transporter has an EPA identification number and a Missouri Hazardous Waste Transporter License.
- ✓ Make sure the place receiving your waste has EPA identification numbers and the necessary state permits.
- ✓ Use manifests for hazardous wastes shipped off site.

Inspections and Recordkeeping

- ✓ Inspect containers at least once a week and keep a written log of inspections.
- ✓ Keep training and inspection records, manifests, shipping receipts and records of lab tests for three years.



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- ✓ Keep land disposal restriction forms for five years.

Training

- ✓ Train all employees to identify, reduce and properly handle wastes.
- ✓ Train new employees before they handle hazardous waste.

Notify DNR

- ✓ If your business is a small or large quantity generator, register as a generator with the Missouri Department of Natural Resources (DNR) to get an EPA and Missouri generator identification number.

Emergency Preparedness

- ✓ Notify police departments, fire departments and local hospitals. They need to know what hazardous wastes are on your property.
- ✓ Designate an emergency coordinator. This person must know what to do in case of a fire, spill or other emergency and must be on the premises or on call 24 hours a day.

Remember

You must decide if your waste is hazardous and manage it correctly. Find ways to eliminate or reduce hazardous wastes. This will reduce the number of requirements you must meet. See the pollution prevention suggestions on other guide sheets, particularly those dealing with paints, solvents and equipment cleaning.

Contingency Plans

Large quantity generators must have a written plan for handling emergencies that includes the following. Even if you are not a large quantity generator, having a written plan is a good idea.

- ✓ Response arrangements with police, fire, hospitals and emergency response contractors.
- ✓ Emergency coordinator's address and phone number(s).
- ✓ On site emergency equipment descriptions and locations.
- ✓ Evacuation plan and routes, including a site diagram.

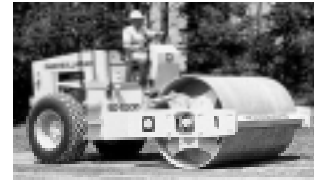
Post Emergency Information

Post the following information near every telephone:

- ✓ Fire department phone number.
- ✓ Emergency coordinator's name and phone number.
- ✓ Locations of fire alarms and extinguishers.
- ✓ Locations of spill control materials.

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Lead-acid Batteries



(In this document the term "battery" means lead-acid battery.)

Lead-acid batteries from motor vehicles and equipment contain materials that can pose a risk to people and the environment. These batteries contain sulfuric acid, lead and other materials that can be hazardous. The hazardous waste regulations have an exemption for persons who generate, transport or collect spent automotive lead-acid batteries, or who store them but do not reclaim them. Generally, reclaiming the batteries means cracking or smelting the batteries. Reclaiming begins when battery casings are cracked or broken. Non-leaking batteries are not considered hazardous waste. Haulers must meet Missouri Department of Transportation (MoDOT) requirements for transporting hazardous materials. Cracked or leaking batteries must be managed as hazardous waste. (See guide sheet #14 on *Hazardous Waste*.)

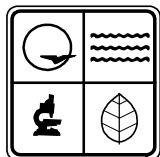
Batteries can also be managed under Missouri's universal waste rule. However, the current recycling program for lead-acid batteries, operating under the hazardous waste exemption, is extremely successful and the requirements are less stringent, so lead acid batteries will probably not be handled as universal waste. However, in the future, as the formulations of automotive batteries change, the battery may be a hazardous waste but not a lead acid battery. If this occurs, the universal waste rule will be a more widely

used option for the management of these batteries. Please contact the Technical Assistance Program if you need information on universal waste.

Used lead acid batteries are banned from sanitary landfill disposal in Missouri. Do not put them in your trash or dumpster. You must send the batteries to a recycling facility, a resource recovery facility or a permitted lead smelter.

If you store batteries, it must be in a way that protects human health and the environment. The safe storage of batteries begins with a suitable location. Batteries should be stored indoors or under cover to keep them dry and to prevent damage to the casings caused by freezing and thawing. They should not be stored near combustibles, such as gasoline, and the storage area needs to be well ventilated. Precautions should be taken to contain spills. One way is to store batteries on or above a sealed concrete floor with a curb. Storage of batteries outdoors requires a storm water permit from the department.

If you are storing batteries, you should have written procedures for handling spills or leaking or cracked batteries. Spills should be neutralized with a material such as agricultural lime, baking soda or a commercial spill kit and be cleaned up immediately.



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Cracked or leaking batteries should be placed in a container impervious to acid, such as a five-gallon plastic bucket. Anyone handling the batteries or spilled material should wear protective clothing, gloves and eyewear. An eye wash sink or eye flush kit should be available.

The Missouri Solid Waste Management Law requires battery wholesalers and retailers to accept used batteries from their customers in quantities at least equal to the number of new batteries sold. If you sell a battery to someone, you must take their old battery if they want you to. You must then arrange for those batteries to be recycled. They cannot be stored longer than 90 days unless you get approval from the

Missouri Department of Natural Resources (DNR). The law also requires anyone selling batteries at wholesale or retail to post a sign about recycling batteries. The sign has to be four inches by six inches or larger and must say: "It is illegal to discard a motor vehicle battery or other lead-acid battery. Recycle your used batteries. State law requires us to accept used motor vehicle batteries, or other lead-acid batteries for recycling, in exchange for new batteries purchased."

(The part of the law dealing with lead-acid batteries is §260.260-260.266, *Revised Statutes of Missouri*.)

Remember

Don't put batteries in the trash. Batteries must go to a recycling facility, a resource recovery facility or a permitted lead smelter. They cannot go to a landfill.

If you sell a battery to someone, you must take their old one if they want you to.

You cannot store used batteries longer than 90 days without DNR approval.

Battery acid may be a hazardous waste.

If you sell batteries, you must post a sign with specific language about recycling.

Pollution Prevention

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Store batteries where they will not be damaged or frozen.
- ✓ Store batteries so that leaks will be caught and contained.
- ✓ Anchor batteries when transporting.
- ✓ Use long-life batteries.
- ✓ Inspect stored batteries regularly for cracks or leaks before they become a problem.

*For more information call 1-800-361-4827 or write to
Missouri Department of Natural Resources
Technical Assistance Program
P.O. Box 176
Jefferson City, MO 65102*

Missouri Department of Transportation

The Missouri Department of Transportation (MoDOT) uses hot mix asphalt in many highway and maintenance projects throughout the state. If you plan to do asphalt work with MoDOT, you need to coordinate the times when MoDOT awards contracts for projects with applying and receiving environmental permits for your asphalt plant.

Bid openings for road construction projects occur 11 times a year. MoDOT mails a notice of these bid openings to everyone who has completed a subscription form and paid a yearly subscription fee for this service. For information or to get a copy of the subscription form, contact the MoDOT Support Center in Jefferson City by calling (573) 526-2907.

When you fill out the subscription form, you can ask to receive specifications for the materials needed to construct the project, including the quality and quantity of asphaltic hot mix needed. The Notice of Bid Opening for Proposed State Road Work is mailed five weeks before each bid opening. You can also find information on bid openings on the Internet by accessing MoDOT's home page at (<http://www.modot.state.mo.us>).

On that page, you will need to select "Doing Business in Missouri." MoDOT also advertises the bid opening in a newspaper in the county where the work will occur.

After the bid opening, all bids are carefully reviewed and checked for accuracy. The bids are then submitted to the Missouri Highway and Transportation commission at the next regularly scheduled Commission meeting. The Commission will award or reject the bids. Once a bid is awarded by the Commission a "Notice to Proceed" letter is prepared and sent to the successful low bidder. The anticipated beginning date for work is listed in the letter. This is normally 30 to 60 days after award of the contract.

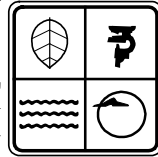
In many cases, the hot mix asphaltic portion of a project is subcontracted out by the prime contractor. Projects with a large amount of asphalt are generally let in the late fall or early winter season. This allows time for the hot mix asphalt plant operator to make arrangements to have the necessary aggregate produced during the winter months. Smaller projects are generally bid in the spring and summer.



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For more information call (888) ASK-MoDOT or write to:

Division Engineer of Design
Missouri Department of Transportation
P.O. Box 270
Jefferson City, MO 65102

Remember

When you bid on a project with MoDOT, keep in mind the timeframes needed to get the necessary environmental permits.

All asphalt plants must have a construction permit before construction, set up or modification. See guide sheet #5 for information on how long this will take.

All portable asphalt plants must have a construction permit for the equipment and site(s). Before you move the equipment to a different location, you must notify DNR or your local air agency. Guide sheet #8 has information on what must be submitted and how far in advance you must send the information.

For more information call 1-800-361-4827 or write to

Missouri Department of Natural Resources

Technical Assistance Program

P.O. Box 176

Jefferson City, MO 65102-0176

Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #18

Petroleum Storage Tanks



Hot mix asphalt plants have storage tanks containing oil or fuel. These tanks have the potential for leaking and spilling oil or fuel, causing harm to the environment. Storage tanks, depending on size, usage or type, are regulated by several agencies.

Aboveground Storage Tanks (ASTs)

Federal law requires you to have a Spill Prevention Control and Countermeasure (SPCC) Plan if you have an oil or used oil storage tank located where it could contaminate water with spilled oil, for example on or near a stream, lake or river. You also need a SPCC plan if you have

- ✓ any single aboveground storage container with a capacity over 660 gallons,
- ✓ aboveground aggregate storage capacity over 1320 gallons, or
- ✓ total underground storage capacity over 42,000 gallons.

The basic requirements of an SPCC plan include what you do to prevent spills, how you plan to contain any spills and how you plan to remove and dispose of the oil or fuel if you have a spill. Also, the storage tanks must be in a containment area.

Aboveground petroleum product storage tanks at a service station or a bulk terminal are regulated by the Missouri Department of Agriculture. If your business includes these operations, contact them at

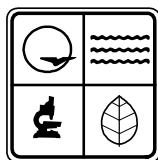
Missouri Department of Agriculture
Division of Weights and Measures
P.O. Box 630
Jefferson City, MO 65102
(573) 751-4278

Underground Storage Tanks (USTs)

If you have an underground storage tank (UST) larger than 110 gallons, you must register that tank with the Missouri Department of Natural Resources (DNR) whether or not the tank is in use, unless the tank was taken out of service before Jan. 1, 1974. There are requirements in Missouri for the way new tanks are to be constructed and installed. Existing tanks were required to meet these requirements or be properly closed by Dec. 22, 1998. If you are planning to install a new UST, you must notify DNR at least 30 days before you use the tank. All USTs must have an approved method of release detection.

You must notify DNR by calling (573) 634-2436 as soon as possible within 24 hours of a suspected release from your UST. Spills and overfills must be immediately contained and cleaned up.

If you plan to take your UST out of service temporarily or permanently, or if you want to use it for something besides petroleum products, contact the department for information on what you need to do.



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Owners and operators of petroleum USTs must demonstrate financial responsibility for releases of products from the tanks. Several options are available for demonstrating financial responsibility. Missouri has a Petroleum Storage Tank Insurance Fund, which provides for

cleanup of contamination from both AST and UST releases. Your tanks may be eligible for benefits from this fund. For more information contact Williams & Company at 1-800-765-2765.

Remember

If you have an underground storage tank larger than 110 gallons, you must register it with DNR even if it isn't being used.

If you store large quantities of oil or waste oil, you need a Spill Prevention Control and Countermeasure (SPCC) Plan.

Spills must be reported to DNR as soon as possible within 24 hours.

Pollution Prevention

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Prevent overfilling and spilling.
- ✓ Label tank contents to prevent mixing.
- ✓ Properly maintain tanks to prevent corrosion.
- ✓ Place tanks where leaks can be easily contained without entering the environment.
- ✓ Inspect tanks daily for leaks and spills.
- ✓ Maintain appropriate spill containment equipment and train employees on proper usage.
- ✓ Clean up spills as soon as possible.
- ✓ Close out unused or out-of-service USTs in accordance with DNR regulations.

*For more information call 1-800-361-4827 or write to
Missouri Department of Natural Resources
Technical Assistance Program
P.O. Box 176
Jefferson City, MO 65102-0176*

Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #19

Storm Water Permits



Rainwater that falls in and around asphalt plant operations and aggregate storage piles can become contaminated with sediments, oil, grease and other materials. If not properly managed, contaminated water can harm the environment, pollute creeks and lakes and even contaminate drinking water.

To prevent environmental and human health problems, the federal Clean Water Act requires a permit to discharge water that has contamination in it. This permit is called a National Pollutant Discharge Elimination System (NPDES) permit. The Missouri Department of Natural Resources (DNR) issues these permits in Missouri where they are called Missouri State Operating Permits.

You must apply for and obtain a Missouri State Operating Permit for stormwater discharge if you own or operate a hot mix asphalt plant. The requirements of the discharge permit are intended to minimize or prevent water pollution. In Missouri, the stormwater permitting requirements are being handled in two ways: general and site-specific permits.

General Permit

General permits cover an entire industry, but the individual facility operator still must apply for it. Asphalt plants located within limestone quarry

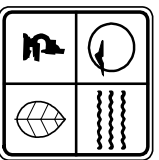
boundaries and owned by the same company may apply for a general storm water permit called MO-G491. Other asphalt plants may apply for a general storm water permit called MO-R21. These general permits do not authorize the use of soap or detergents in truck washing. If you want to discharge that or any other wastewater not authorized in the general permit, you need a site-specific permit.

General permits are issued statewide for periods of five years. If an individual business applies for the permit in the middle of the five-year period, they will get less than five years on their first permit.

Site-Specific Permit

When a business stores toxic materials or large amounts of potential contaminants exposed to rainfall, needs close monitoring or is one of only a few of its kind in the state, it may need a site-specific permit.

A site-specific permit takes into account the individual characteristics of the site and the stormwater runoff. In some cases, DNR may require the owner or operator of a site to apply for a site-specific permit in order to better protect water quality.



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Remember

If you own or operate a hot mix asphalt business in Missouri, you must have a Missouri State Operating Permit for your stormwater discharge.

Pollution Prevention

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Your permit may require certain pollution prevention practices or even a pollution prevention plan. Here are some suggestions:

- ✓ Prevent spills of oil, grease, gasoline, antifreeze and any other fluids.
- ✓ Use interceptor dikes, swales or berms to direct stormwater away from storage areas and areas that are prone to erosion.
- ✓ Revegetate disturbed or bare soil areas as soon as possible.
- ✓ Maintain appropriate spill containment equipment and train employees how to use it.

*For more information call 1-800-361-4827 or write to
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Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #20

Used Oil Disposal and Recycling



Improper disposal of used oil can harm the environment and result in costly cleanup. In Missouri, there are certain things you must do and certain things you must not do when managing used oil from your business.

You cannot dispose of used oil at a landfill or with your regular trash. You cannot dispose of your used oil into the environment or create a public nuisance. You cannot use used oil for dust suppression or killing weeds on gravel roads, parking lots or elsewhere. You cannot start brush or trash fires with used oil.

Used oil is regulated under the federal and state hazardous waste laws. If you recycle your used oil, it is regulated under special used oil regulations. Recycled used oil includes oil that is re-refined, reclaimed, reprocessed or burned for energy recovery. If you do not recycle your used oil, it is a hazardous waste and the Missouri waste code is DO98. See guide sheet #14, *Hazardous Wastes*, for more information.

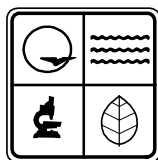
Off Site Shipments of Used Oil. Anyone hauling used oil from your business must have a Missouri hazardous waste transporter license and an identification number from the U.S. Environmental Protection Agency (EPA). Contact the Department of Natural Resources for a transporter list.

You can transport your own used oil if

- ✓ you transport 55 gallons or less at any time,
- ✓ it is your own used oil or used oil accepted from do-it-yourselfers or exempt farmers,
- ✓ you take the oil to a used oil collection center or used oil aggregation point, and
- ✓ you use your own vehicle or an employee's vehicle.

Mixing other Wastes with Used Oil. Be very careful what you mix with used oil. You can mix certain ignitable hazardous wastes with used oil if the mixture you end up with is not ignitable. If the hazardous waste is something other than ignitable (for example, if it's a listed hazardous waste), mixing it with your used oil will make your used oil a hazardous waste. For example, mixing your listed hazardous waste solvent with used oil will cause all of the oil mixture to be hazardous waste. See guide sheet #14, *Hazardous Waste*, for more information.

On Site Space Heaters. In your shop, you may burn your own used oil, oil from do-it-yourselfers and oil from farmers who generate less than 25 gallons per month in a specially-designed used oil space heater. The used oil space heater must have a capacity of 500,000 BTU per hour or less and be vented outside.



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You do not need to notify DNR if you are burning used oil in this type of space heater. However, you must notify the department if you are collecting used oil from do-it-yourselfers or farmers. Contact DNR for more information on collecting used oil from others.

If you are a small quantity or large quantity generator of hazardous waste, you cannot burn any mixture of used oil with hazardous waste in a used oil space heater. If you are a conditionally

exempt generator of hazardous waste that is hazardous only because it is ignitable, you may mix it with your used oil for burning.

Before adding anything to your used oil, check with your used oil transporter or used oil space heater manufacturer. Make sure that the practice is acceptable and will not damage your space heater or release hazardous emissions into the environment.

Remember

You cannot send used oil to the landfill or pour it out onto the ground.

If you are not recycling your used oil, it is a hazardous waste.

If someone else is hauling your used oil, they must have an EPA identification number and be registered with DNR.

You may burn your own used oil in a used-oil burner smaller than 500,000 BTU/hour that is properly vented.

You may collect and burn used oil from do-it-yourselfers or exempt farmers in your used-oil burner. Notify DNR first.

Pollution Prevention

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Keep used oil separate from other wastes so it can be recycled or used to heat your shop areas.
- ✓ If you remove oil-laden parts, place them on a drip pan rather than on the floor or the ground.
- ✓ Do not use oil drip pans to collect antifreeze or solvents.

*For more information call 1-800-361-4827 or write to
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Technical Assistance Program
P.O. Box 176
Jefferson City, MO 65102-0176*

Preventing Pollution at Hot Mix Asphalt Plants - Guide Sheet #21

Used Oil Storage

Improper storage of used oil can increase the risk of spills and leaks that could harm the environment. Spills can also be expensive to clean up. In Missouri, there are some legal requirements for storing used oil from your business.

If you store used oil, you must

- ✓ Label or mark the storage container(s) with the words "Used Oil."
- ✓ Keep containers in good condition.
- ✓ Not store used oil collected from do-it-yourselfers longer than 12 months.
- ✓ Keep containers closed if they are exposed to rain or snow, except when removing or adding used oil.
- ✓ Inspect storage areas regularly for leaks or spills.
- ✓ Fix leaking containers immediately or move the oil to another container.

Although you aren't required to, you may wish to put your used oil containers in a secondary containment structure to prevent spills and contamination. Secondary containment is a structure or container that surrounds the storage tank and can catch the liquid if the storage tank leaks. The secondary containment should have a volume at least 10 percent greater than the volume of the largest container.



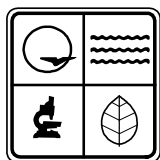
If you are storing a large amount of oil (one tank over 660 gallons or a total of over 1320 gallons) you are required to have spill prevention measures. See guide sheet #18, *Petroleum Storage Tanks*, for more information.

Your community or county may have specific requirements for storing oil. Check with local authorities, particularly your fire department.

The Missouri Department of Natural Resources (DNR) recommends not storing used oil in underground tanks.

Storing containers on an impervious surface, like sealed or treated concrete, helps contain spills and makes cleanup easier. Some businesses store their used oil containers on pallets or slightly elevated in some way to make it easier to spot spills or leaks.

Clean up all spills immediately. Spills of over 25 gallons of used oil or other petroleum products from underground storage tanks must be reported to DNR. Petroleum spills from any other source must be reported if the spill is over 50 gallons. However, if the petroleum spills into a waterway such as a creek, lake, river or stream, or into a ditch that drains to a waterway, it must be reported to DNR no matter how small the spill.



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Note: The legal requirements for used oil storage can be found in the *Missouri Code of State Regulations*, 10 CSR 25, Chapter 11 and in the *Code of Federal Regulations*, 40 CFR Part 279.

Remember

Label or mark storage containers and keep them in good condition.
Inspect storage areas regularly. Fix leaks immediately or move the oil to another container.
If containers are exposed to rain, keep them closed except when adding or removing used oil.
Check with local authorities to learn if there are local requirements.
Oil spills must be reported to DNR by calling (573) 634-2436.

Pollution Prevention

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Keep used oil separate from other wastes.
- ✓ Have separate storage containers for antifreeze, solvents or other fluids that could accidentally be mixed with used oil.
- ✓ Use large drum funnels or fill tubes when filling used oil drums. Store funnels on a drip pan to collect dripping oil.
- ✓ Clean spills on a floor with a rag or mop that can be wrung-out and reused. A biodegradable soap and water solution may be used to clean up oil sheens.

*For more information call 1-800-361-4827 or write to
Missouri Department of Natural Resources
Technical Assistance Program
P.O. Box 176
Jefferson City, MO 65102-0176*

Using Waste in Asphalt



Operators of hot mix asphalt plants sometimes wish to use a variety of waste materials in the hot mix as aggregate or another component. The Missouri Department of Natural Resources (DNR) encourages recycling. However, there are many potential environmental, regulatory and human health concerns associated with the use of inappropriate waste materials in hot mix asphalt.

In Missouri, clean fill can be used in your asphalt or as fill material. Clean fill includes uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks and brick. If

you want to use contaminated materials such as mine tailings or waste other than clean fill such as glass, you should contact DNR to discuss whether the material is appropriate to use in your asphalt. Also, if you want to use waste oil, waste solvent or any other waste in the asphalt, contact DNR before you accept the waste for use.

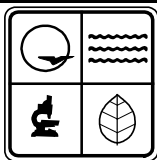
If the waste material involved is defined as hazardous waste in Missouri, you may need approval from DNR called a Resource Recovery Certification before accepting the waste. Contact DNR for more information on this requirement.

Remember

Before you accept any waste, other than clean fill, check with DNR to find out if you can legally accept it for use in your asphalt.

Pollution Prevention

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people.

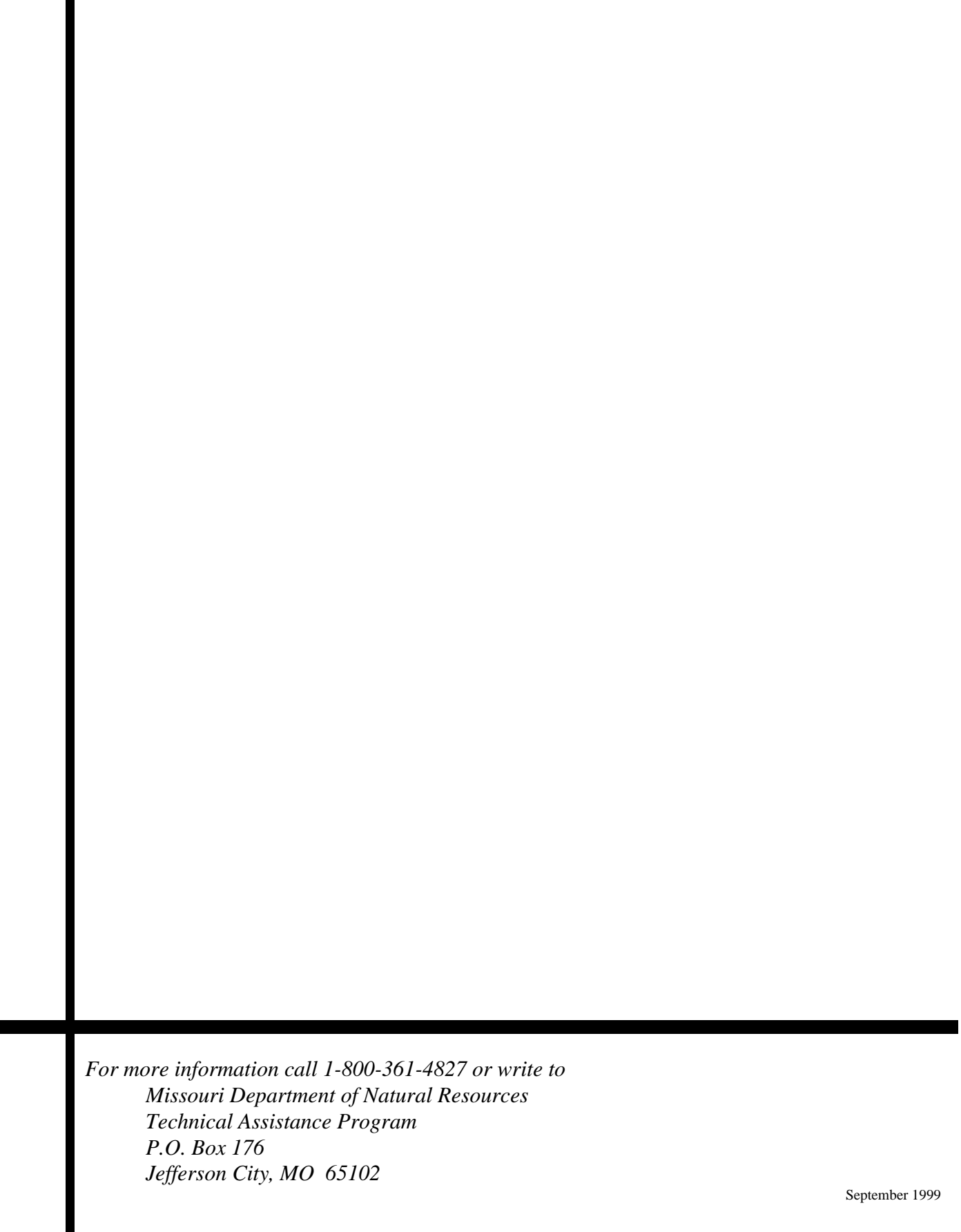


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September 1999

Preventing Pollution at Hot Mix Asphalt Plants – Guide Sheet #23

Waste Tires



Note: Rules governing management of waste tires were changed in 1997. This guide sheet reflects the new requirements.

Tires that are too damaged or worn for use as vehicle tires are waste tires. Since 1990, the storage, hauling and disposal of waste tires have been regulated under Missouri's Solid Waste Management Law.

Storage Waste tires must be stored in a way that does not cause pollution, health or nuisance problems. Since tires can collect water and create breeding grounds for mosquitoes, you should protect your storage area from rainwater or provide some other way to control mosquitoes. Tires may also pose a fire hazard, so they should always be stored away from ignition sources.

Tires intended for resale or retreading are not waste tires. Store them separately from waste tires. Anyone storing 25 to 499 tires is regulated as a waste tire collection center and must meet certain requirements.

Anyone who stores 500 or more tires must have a waste tire site permit from the Missouri Department of Natural Resources (DNR).

Hauling If you pay someone to haul your waste tires, that person needs a permit. However, you or other employees from your business do not need a permit to haul tires generated from your business. The tires may be hauled to a waste tire

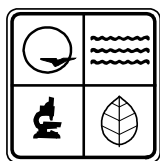
processor, site or end-user. Tires may be hauled to a landfill if they are cut, chipped or shredded.

A tire hauler's permit is good for one year and only applies to the person or business to whom it is issued. Check the expiration date and name on the permit to be sure it is valid. To get the list of permitted waste tire haulers or check the permit status of a hauler who picks up tires at your shop, contact DNR.

Recordkeeping You must keep a record of how many tires are taken in and removed from your shop each month. Include the name of the hauler and the date the tires were removed. You may contact DNR to get a recordkeeping form.

Beneficial Reuse Sometimes a person wants a few waste tires for a home project. If someone wants to use over 100 tires, they need approval from DNR. Individuals can haul their own waste tires for their own use, but you still need to keep a record of who takes your tires, when they take them and how many they take.

Processing If you process tires for a fee, you need a waste tire processing permit from DNR if you have more than 25 tires on site at any time. Processing includes shredding, cutting, chipping or otherwise altering the tires. You do not need a permit if you or other employees from your business process tires generated by your business.



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Disposal Never burn tires in Missouri. Even in areas where home waste burning is allowed, burning tires is prohibited. Never bury tires, even on your own property.

You cannot dispose of tires in a landfill unless the tire is cut up in three pieces or in half circumferentially (forming two circles). Special equipment is usually needed to cut tires for disposal. There are places to legally take your waste tires in Missouri. They usually charge a fee per tire and can accept whole tires. Contact DNR for a list of sites.

Uses for waste tires There are options for using waste tires rather than disposing of them. Waste tire chips can be used for many things such as mulch on playgrounds or as fuel in electrical plants. Contact DNR for information on reuse and recycling options.

The legal requirements for waste tires can be found in §260.270-278, *Revised Statutes of Missouri (RSMo)* and in 10 CSR 80, *Chapter 8 of the Code of State Regulations*.

Remember

Do not burn waste tires.

Waste tires cannot go to the landfill unless they are cut into three or more pieces or in half circumferentially (in two circles).

If you wish to store 25 or more waste tires, you must follow requirements for waste tire collection centers (see guide sheet on waste tire collection centers).

Anyone paid to haul waste tires needs a permit from DNR.

Pollution Prevention

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Educating drivers on how to extend the life of tires by
 - Avoiding fast starts and stops;
 - Properly inflating tires;
 - Properly balancing and aligning wheels.
- ✓ Buy retreaded tires.

*For more information call 1-800-361-4827 or write to
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